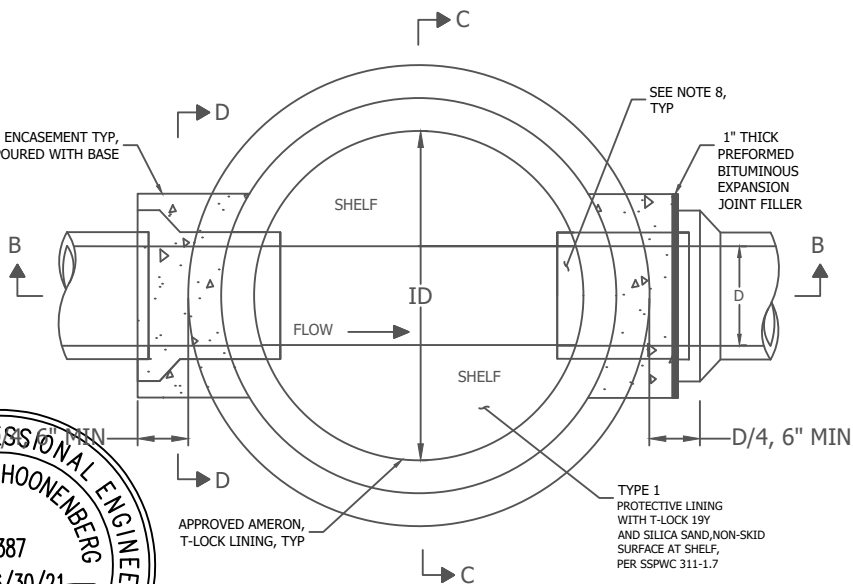
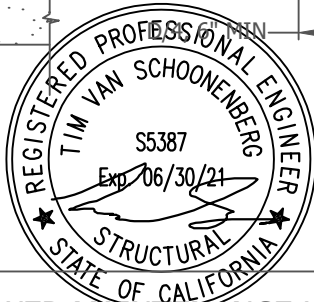
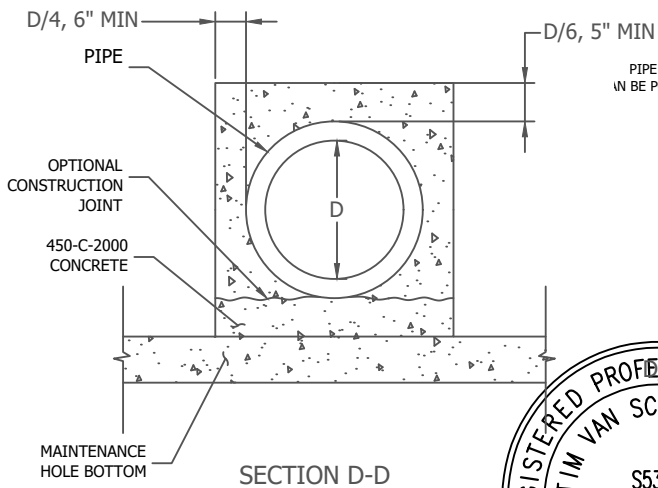


FOR REBAR SEE DETAIL SHEET FOR SPECIFIC SIZE MANHOLE ATTACHED



LARGE PRECAST CONCRETE SEWER MAINTENANCE HOLE
60", 72", 84" AND 96" DIAMETER
FOR THE
LOS ANGELES DEPARTMENT OF PUBLIC WORKS

PRECON PRODUCTS

Phone (805) 527-0841 Fax (805) 584-0769

TITLE:

S-150-0 POUR IN PLACE BASE

DRAWN BY:

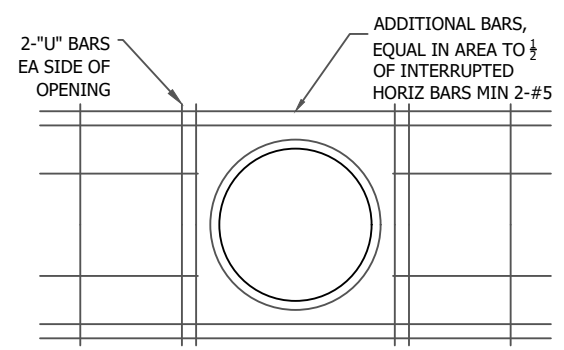
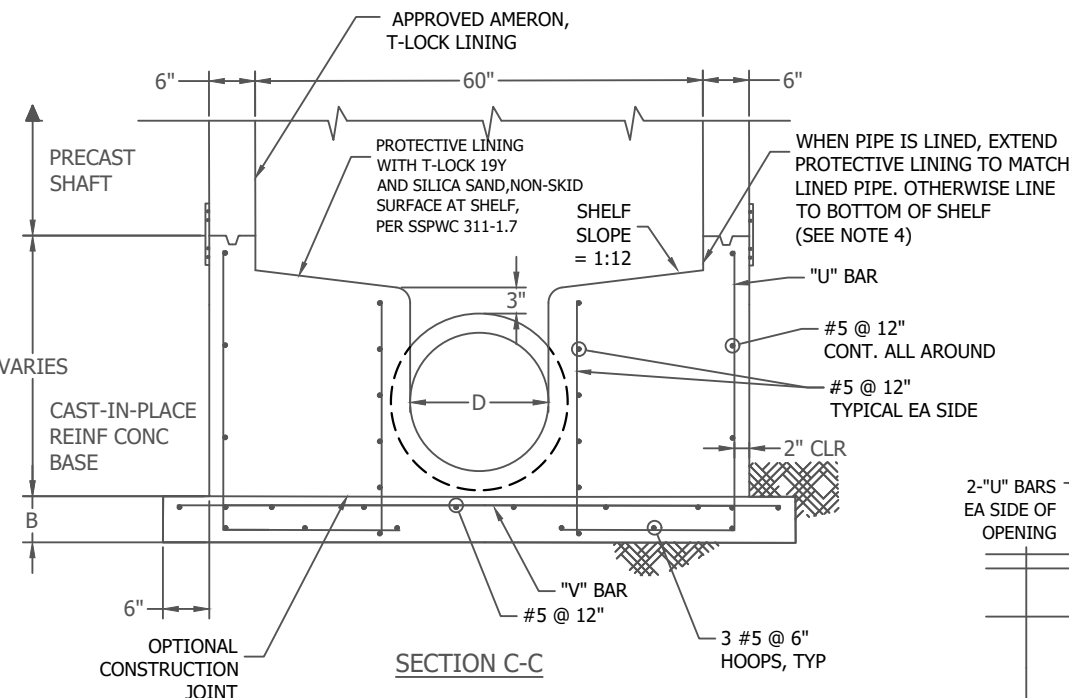
K.Strader

DATE:

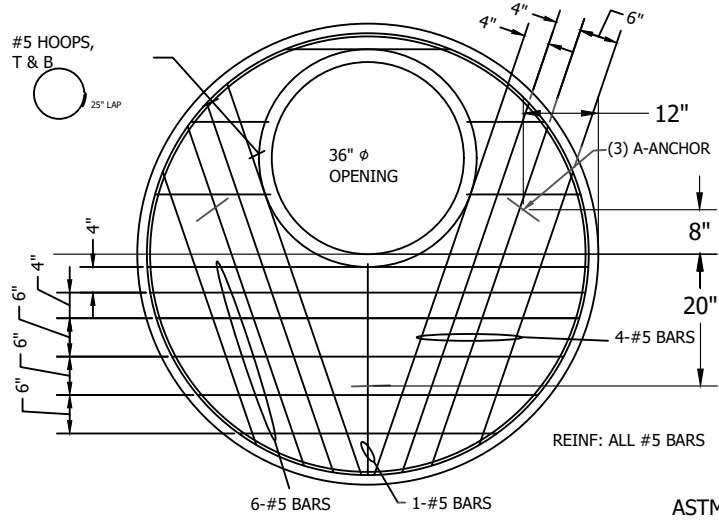
12/10/20

MODEL NO.

PG 1 OF 7



REINFORCEMENT ARRANGEMENT AT OPENINGS



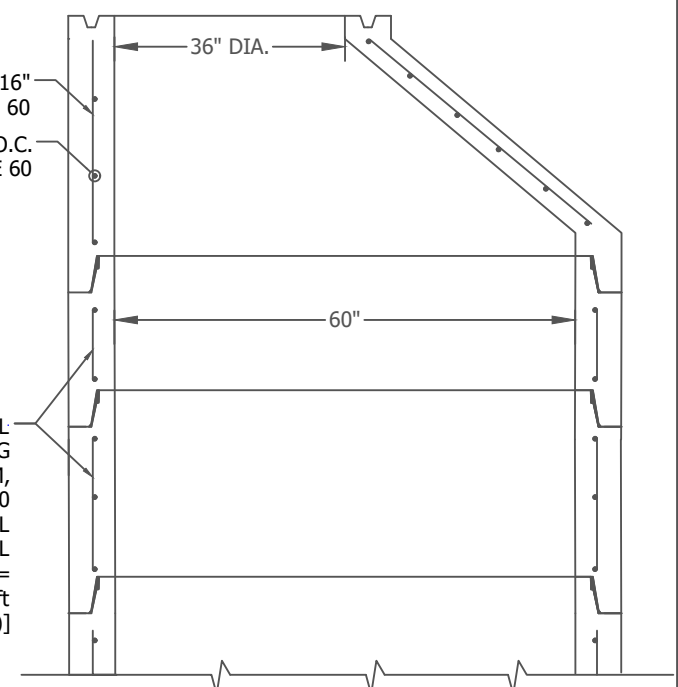
PLAN VIEW

#4 @ 16" GRADE 60

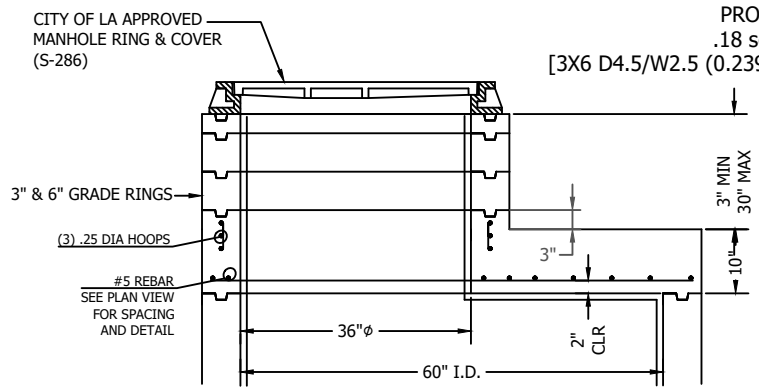
#3 @ 6" O.C. GRADE 60

STEEL REINFORCING ASTM A1064 WWM, GRADE 60

CIRCUMFERENTIAL AREA OF STEEL PROVIDED = .18 sq. in. / ft [3X6 D4.5/W2.5 (0.239/0.178)]



REINFORCING DETAIL



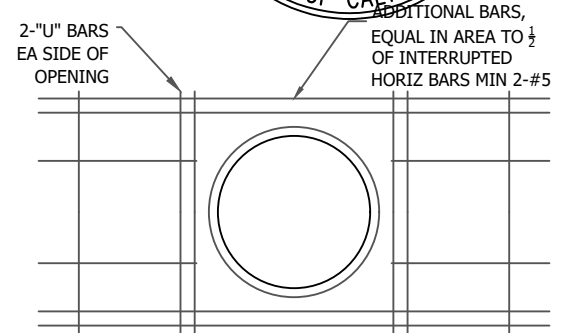
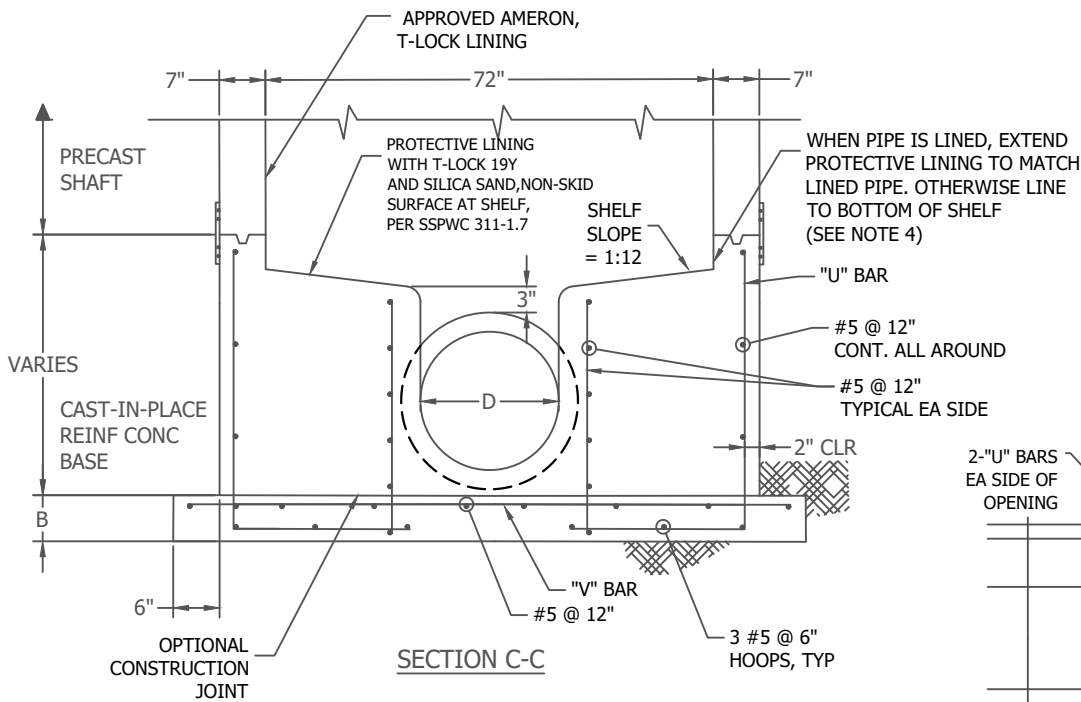
SECTION VIEW
SEE PLAN VIEW ABOVE FOR STEEL INFORMATION
DETAIL OF FLAT SLAB TOP 36" X 60"
PLAN AND SECTION VIEW

TABLE OF REINFORCING BARS					
ID	"H"	DIMENSIONS		REINFORCING BARS	
		A	B	"U"	"V"
60"	UP TO 15'	10"	8"	#5 @ 12"	#5 @ 12"
	15.1' TO 35'		10"	#6 @ 10"	#6 @ 12"

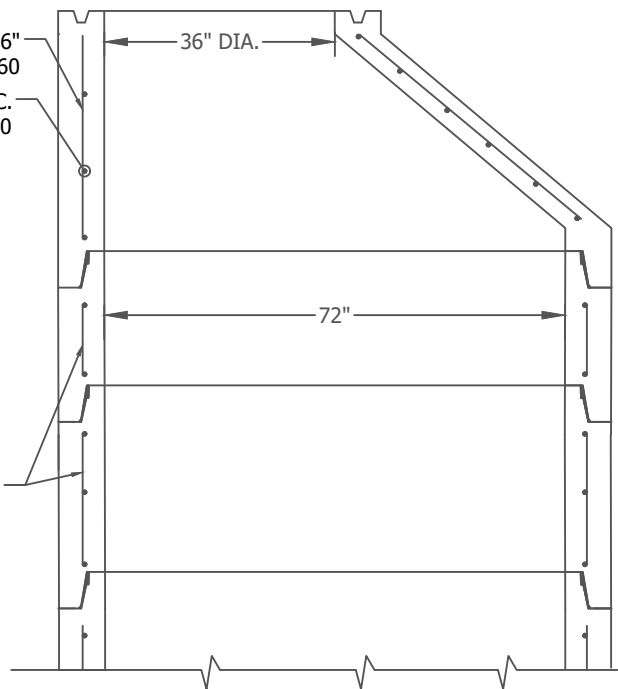
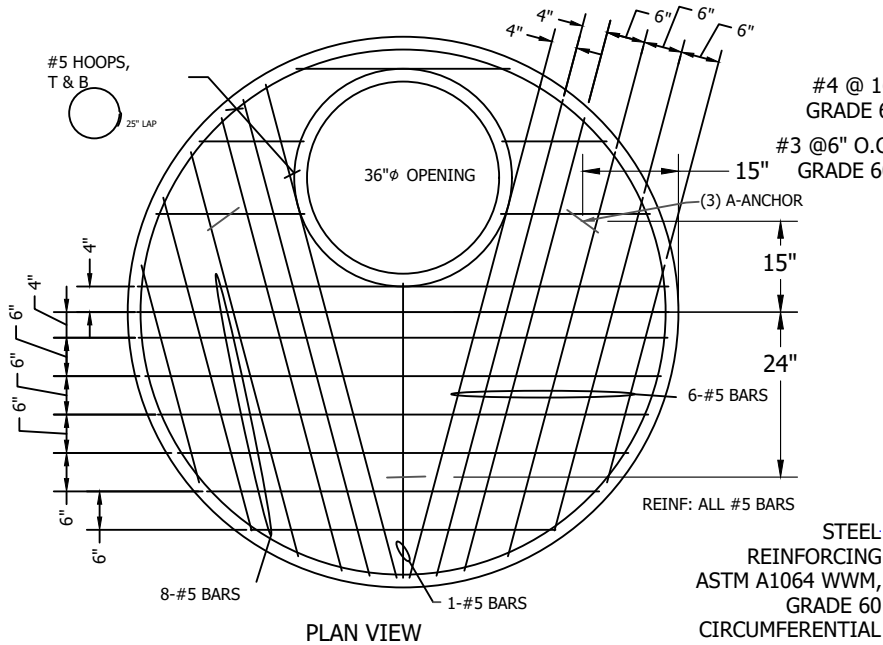
PRECOR PRODUCTS

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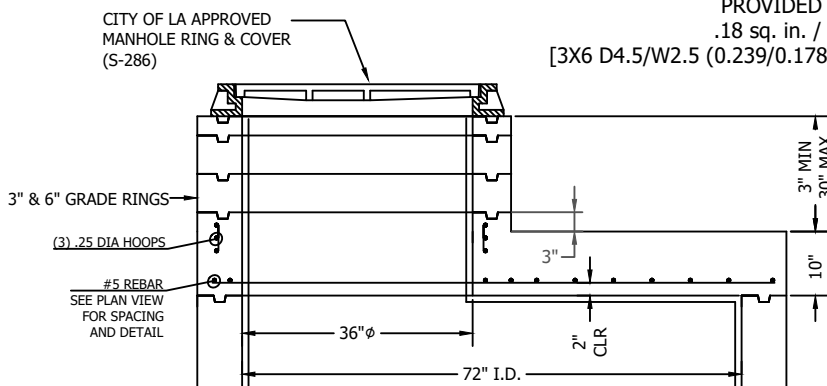
TITLE: S-150-0 POUR IN PLACE BASE		
DRAWN BY: K.Strader	DATE: 12/10/20	MODEL NO. PG 2 OF 7



REINFORCEMENT ARRANGEMENT AT OPENINGS



REINFORCING DETAIL



SECTION VIEW

SEE PLAN VIEW ABOVE FOR STEEL INFORMATION

DETAIL OF FLAT SLAB TOP 36" X 72"
PLAN AND SECTION VIEW

TABLE OF REINFORCING BARS

ID	"H"	DIMENSIONS		REINFORCING BARS	
		A	B	"U"	"V"
72"	UP TO 15'	10"	8"	#5 @ 12"	#5 @ 12"
	15.1' TO 35'		10"	#6 @ 12"	#6 @ 12"

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TITLE:

S-150-0 POUR IN PLACE BASE

DRAWN BY:

K.Strader

DATE:

12/10/20

MODEL NO.

PG 3 OF 7

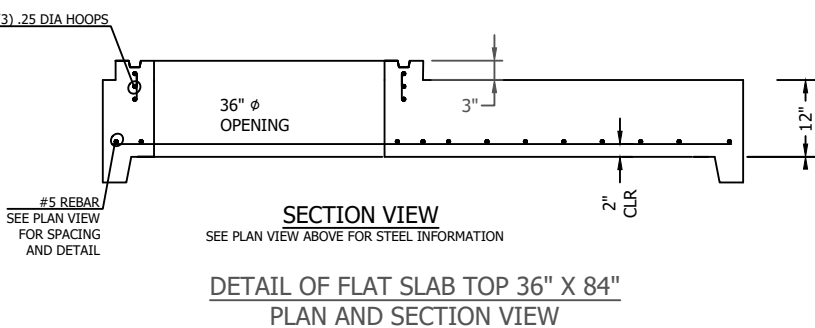
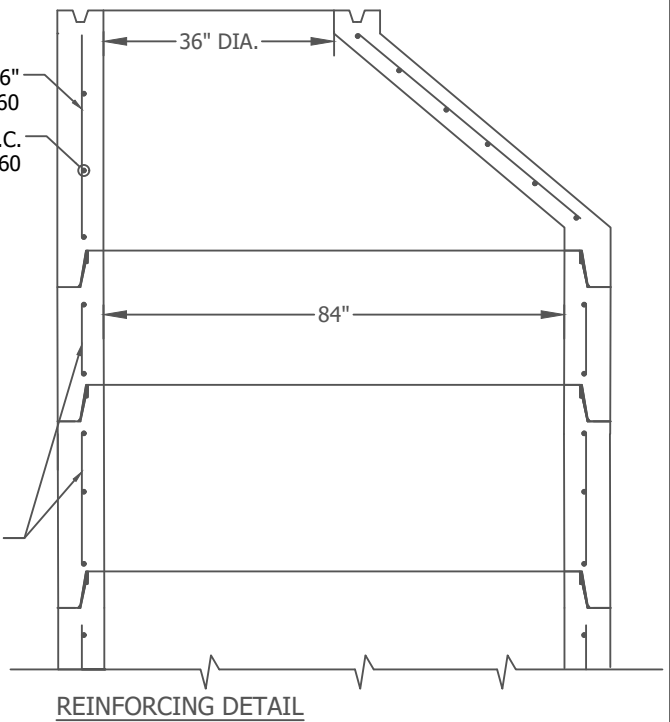
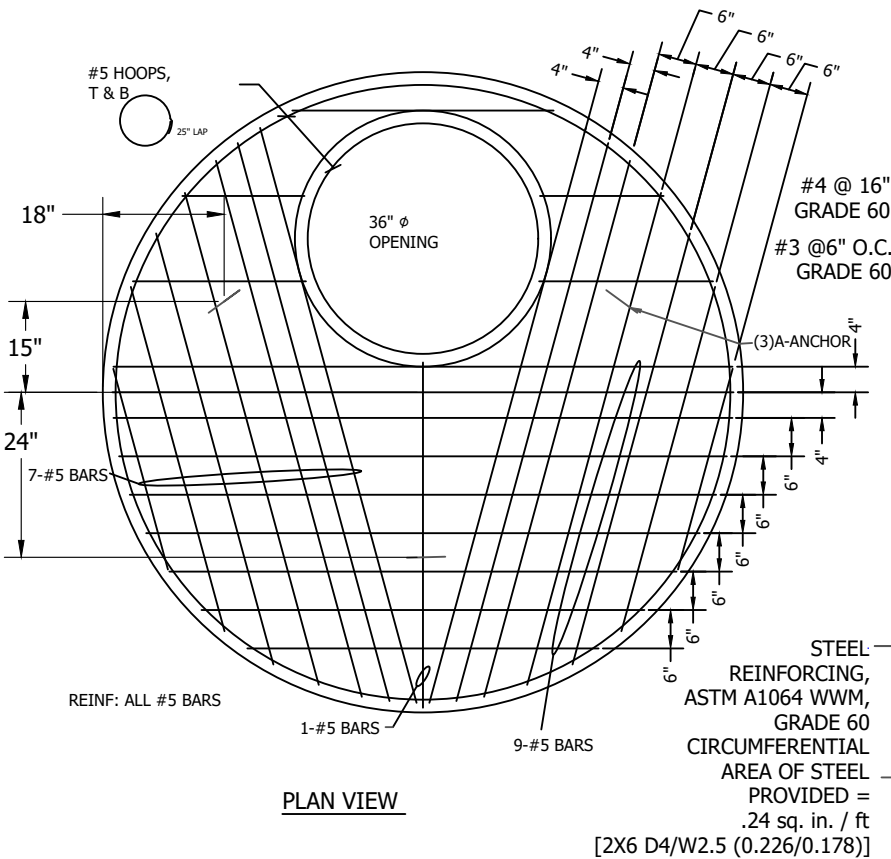
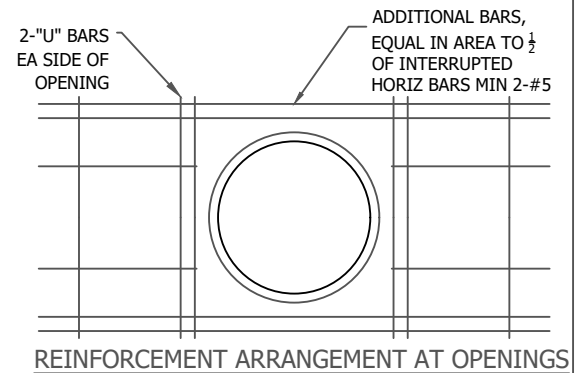
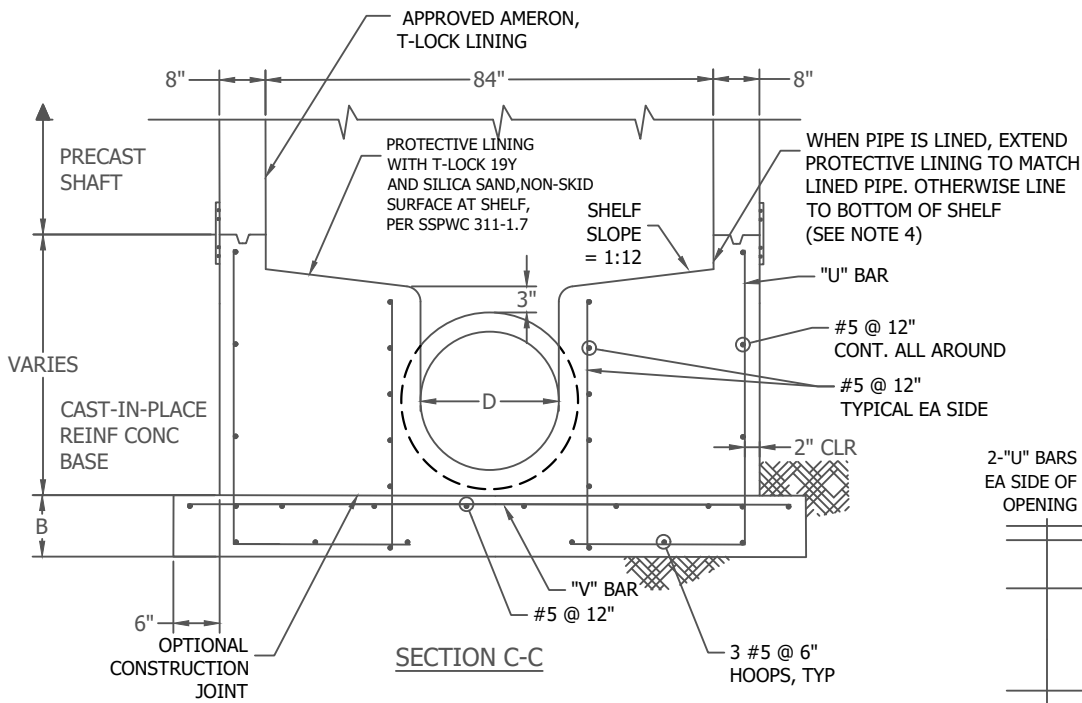


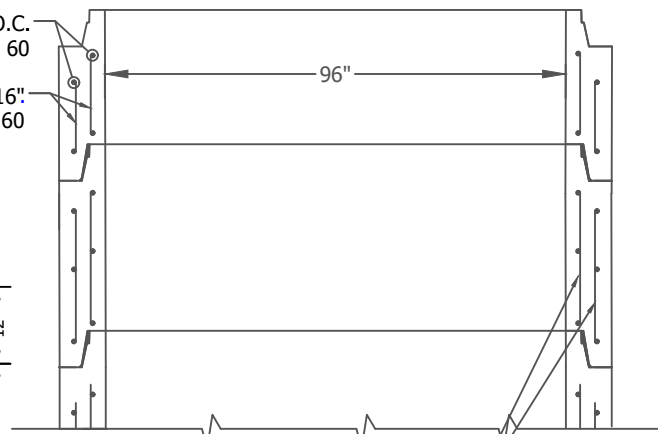
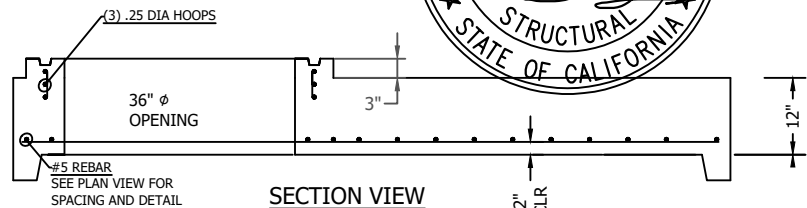
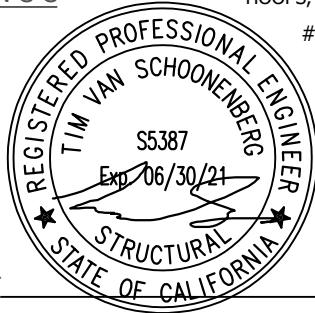
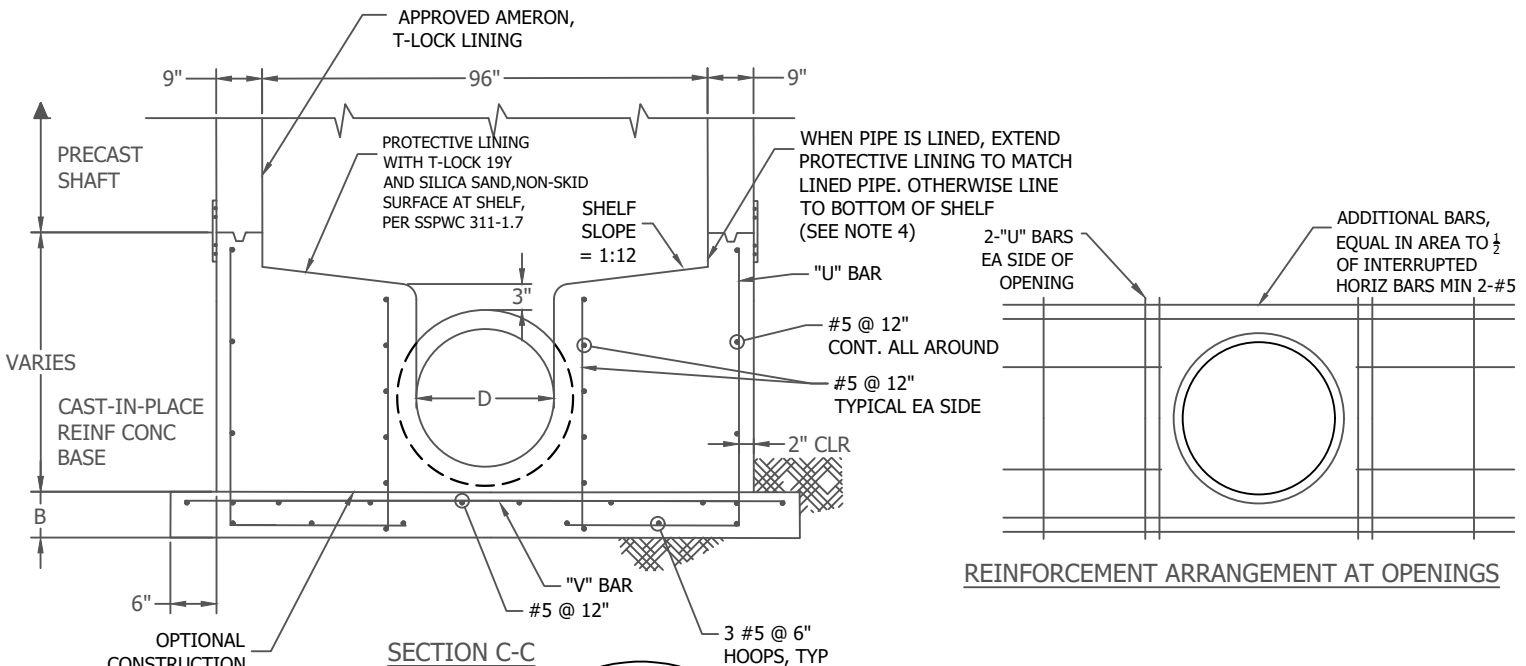
TABLE OF REINFORCING BARS					
ID	"H"	DIMENSIONS		REINFORCING BARS	
		A	B	"U"	"V"
84"	UP TO 15'	12"	10"	#5 @ 12"	#5 @ 12"
	15.1' TO 35'		10"	#6 @ 8"	#7 @ 9"

PRECOR PRODUCTS

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TITLE: S-150-0 POUR IN PLACE BASE

DRAWN BY: K.Strader DATE: 12/10/20 MODEL NO. PG 4 OF 7



STEEL REINFORCING
ASTM A1064 WWM,
GRADE 60
CIRCUMFERENTIAL
AREA OF STEEL
PROVIDED =
.24 sq. in. / ft
[2X6 D4/W2.5 (0.226/0.178)]

REINF: ALL #5 BARS

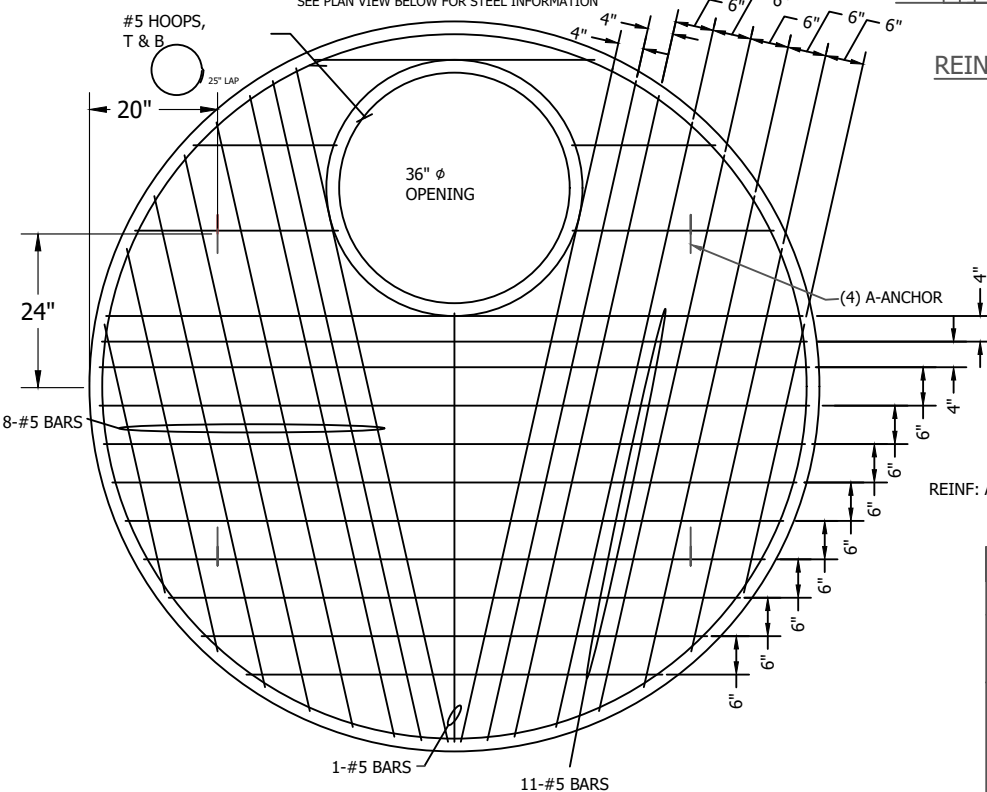


TABLE OF REINFORCING BARS					
ID	"H"	DIMENSIONS		REINFORCING BARS	
		A	B	"U"	"V"
96"	UP TO 15'	12"	10"	#6 @ 12"	#6 @ 12"
	15.1' TO 35'		12"	#7 @ 6"	#7 @ 9"

PRECOR PRODUCTS

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TITLE:

S-150-0 POUR IN PLACE BASE

DRAWN BY:

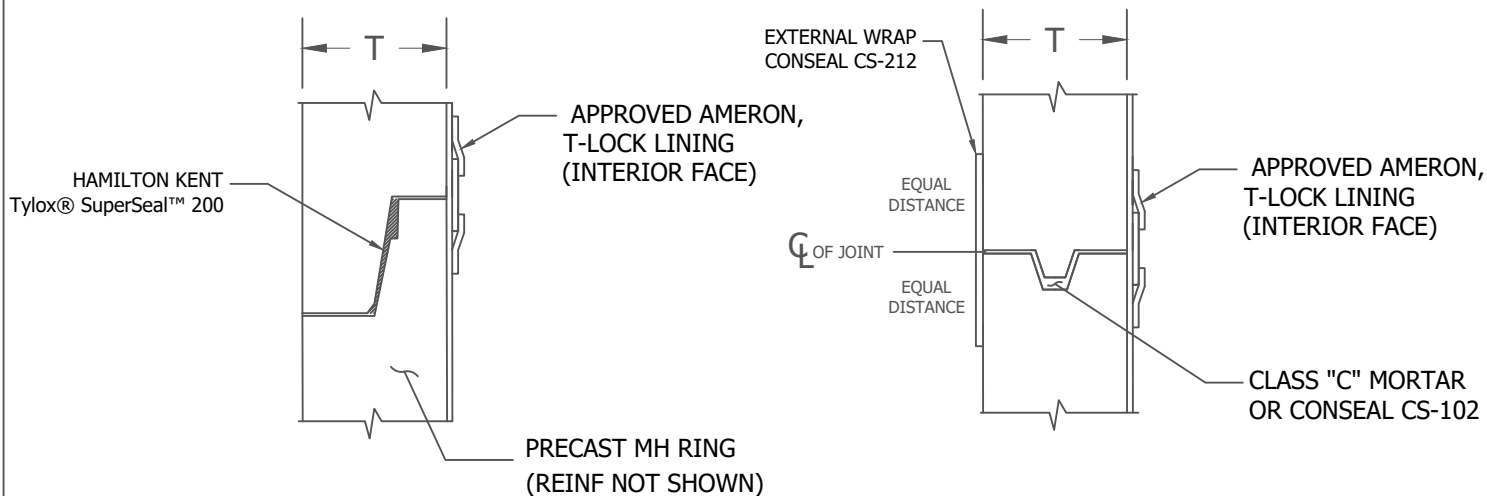
K.Strader

DATE:

12/10/20

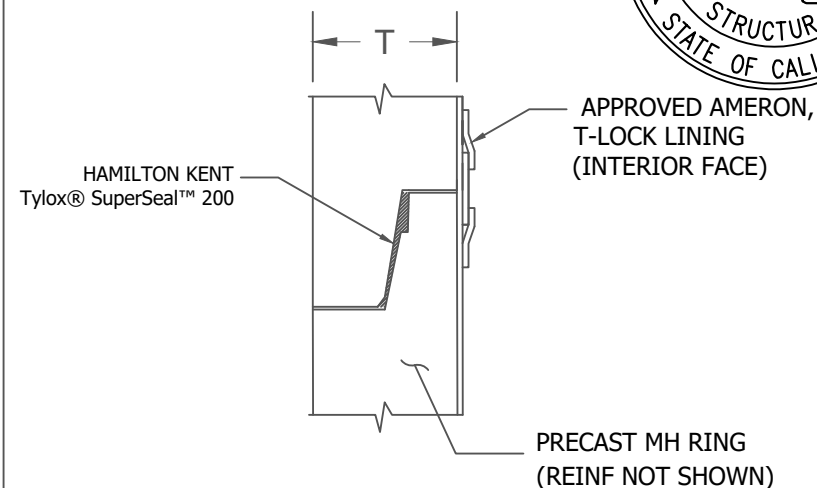
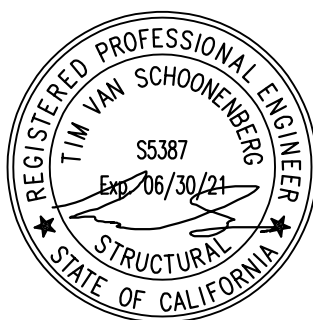
MODEL NO.

PG 5 OF 7

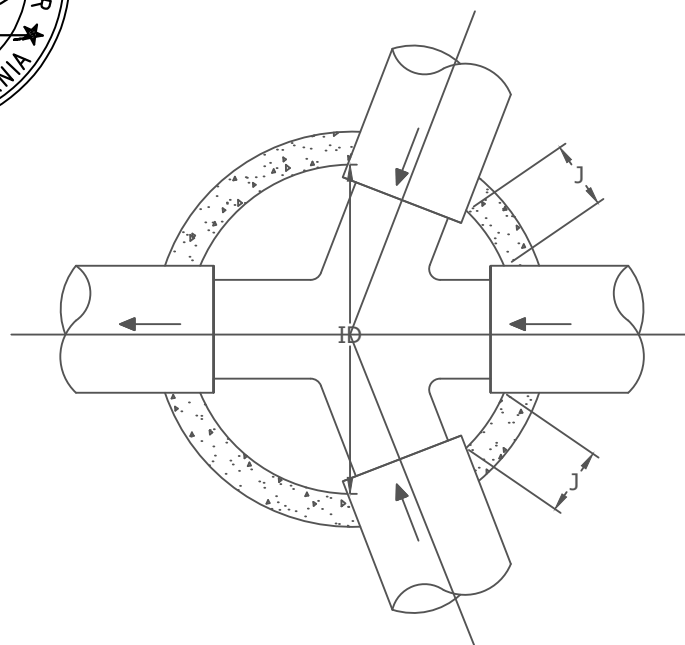


GASKET JOINT @ SHAFT
(SEE NOTE 11)

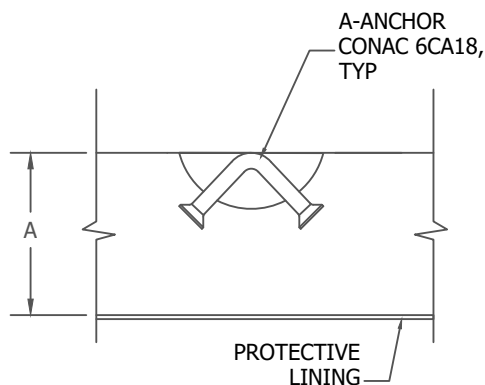
KEYED JOINT DETAIL
(SEE NOTE 11)



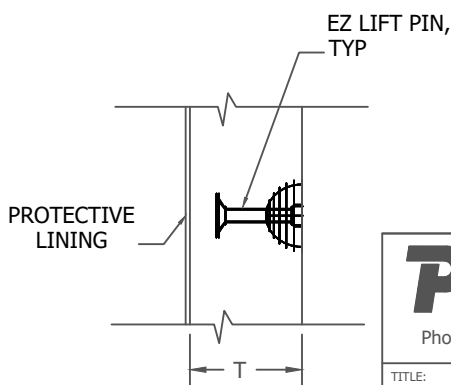
GASKET JOINT @ BASE



PIPE SPACING DETAIL
(SEE NOTE 13)



A-ANCHOR DETAIL



EZ LIFT PIN DETAIL

WALL THICKNESS INFORMATION		
ID	T	A
60"	6"	10"
72"	7"	10"
84"	8"	12"
96"	9"	12"

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TITLE:

S-150-0 POUR IN PLACE BASE

DRAWN BY:

K.Strader

DATE:

12/10/20

MODEL NO.

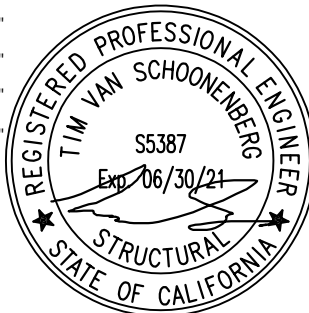
PG 6 OF 7

NOTES :

- 1. THE MAINTENANCE HOLE DESIGNATION, INNER BASE (INCLUDING CHANNELS AND SHELVES), BOTTOM, ETC, SHALL CONFORM TO THE PROVISIONS SET FORTH IN STANDARD PLAN S-140 TITLED "SEWER MAINTENANCE HOLES-GENERAL" EXCEPT AS SHOWN HEREIN. REFERENCE IS ALSO MADE TO STANDARD PLAN S-142 WHERE APPLICABLE. SEE THE PROJECT PLAN IF H EXCEEDS 35 FEET.
- 2. MH CASE I SHALL BE USED FOR COVER ON PIPE EQUAL TO OR MORE THAN 12 FT. (Except for 96")
MH CASE II SHALL BE USED FOR COVER ON PIPE LESS THAN 12 FT AND FOR 96" DIAMETER MAINTENANCE HOLES.
- 3. PRECAST RISER SECTIONS 60" I.D. THROUGH 96" I.D. SHALL BE REINFORCED IN ACCORDANCE WITH ASTM C 478 AND SHALL HAVE THE FOLLOWING MINIMUM WALL THICKNESS (T): 60" ID - T= 6", 72" ID - T= 7", 84" ID - T=8", 96" ID - T=9"
- 4. FOR SEWER PIPES LARGER THAN 18" THE INTERIOR SURFACE OF THE MAINTENANCE HOLE SHALL BE PROVIDED WITH TYPE 1 PROTECTIVE LINING WITH LOCKING EXTENSIONS. IN ACCORDANCE WITH THE STANDARD PLAN S-121-1. THE PROTECTIVE LINING SHALL EXTEND FROM THE TOP OF THE GRADE RINGS TO THE BOTTOM OF THE SHELF UNLESS THE ADJACENT PIPE IS LINED. IF THE ADJACENT PIPE IS LINED, THE PROTECTIVE LINING SHALL EXTEND TO A POINT IN THE CHANNEL MATCHING THE BOTTOM OF THE LINER IN THE LINED PIPE. LINER RETURNS SHALL BE PROVIDED WHERE THE PROTECTIVE LINING TERMINATES AT THE ADJUSTING RING AND SHELF. WHERE A NON -SKID SURFACE IS INDICATED, CONFORM TO SECTION 311-1.7 OF THE SSPWC.
- 5. UNLESS OTHERWISE SPECIFIED, ALL CONCRETE CLASS SHALL BE 660-CW-4000P AND ALL REINFORCING BARS SHALL CONFORM TO ASTM-A615 GRADE 60.
- 6. MAINTENANCE HOLES SHALL BE PROVIDED WITH A 36-INCH FRAME AND COVER IN ACCORDANCE WITH STANDARD PLAN S-286.
- 7. EXCEPT AS NOTED HEREON, THE PRECAST UNITS SHALL BE MANUFACTURED, TESTED, AND CURED. UNITS SHALL NOT BE SHIPPED PRIOR TO REACHING THE DESIGN STRENGTH.
- 8. FOR SEWER PIPES 15 INCHES OR SMALLER THE END OF THE PIPE TERMINATING IN THE MAINTENANCE HOLE SHALL BE FLUSH WITH THE INTERIOR SURFACE OF THE MAINTENANCE HOLE WALL AT THE CENTER LINE OF THE PIPE. FOR SEWER PIPES 18 INCHES OR LARGER THE MAINTENANCE HOLE WALL DIRECTLY ABOVE AND BELOW THE PIPE SHALL BE FLAT AND FLUSH WITH THE PIPE END. IF THE ALIGNMENT IS NOT RADIAL TO THE MAINTENANCE HOLE, THE PIPE END TERMINATING IN THE MAINTENANCE HOLE SHALL BE BEVELED. PIPE END BEVELING SHALL BE DONE BY SAW CUTTING.
- 9. MAINTENANCE HOLE BASE, PIPE ENCASEMENT AND/OR INNER BASE MAY BE POURED MONOLITHICALLY OR SEPARATE. 660-CW-4000P CONCRETE CLASS SHALL BE USED FOR PRECAST OR FIELD POURED BASE. REINFORCEMENT LOCATION OF MAINTENANCE HOLE BASE TO REMAIN AS SHOWN AND CLEAR COVER OVER BARS PERMITTED TO INCREASE. IF PIPE TO MANHOLE GASKETS OR BOOTS ARE USED THE PIPE ENCASEMENT AND EXPANSION JOINT IS NOT REQUIRED. BOOTS AND GASKETS PER ASTM C-923 AND SSPWC 208-6.1.1.
- 10. WHEN PIPE IS SPECIFIED TO BE BEDDED IN CONCRETE A TRANSVERSE EXPANSION JOINT FILLER SHALL BE PROVIDED AT THE PIPE FLEXIBLE JOINTS IN SECTION A-A. SEE PIPE BEDDING - FLEXIBLE JOINTS DETAIL ON SHEET 3.
- 11. THE FOLLOWING NOTES APPLY TO ALL JOINTS:
 - A. PROVIDE APPROVED PVC WATERSTOP AT ALL CONSTRUCTION JOINTS SHOWN. FOR JOINTS BETWEEN PRECAST MEMBERS, SEE NOTES B,C,D BELOW.
 - B. ALL JOINTS OF PRECAST UNITS SHALL BE GASKETED JOINTS CONFORMING TO SSPWC SECTION 208-3 AND ASTM C443. THE MOST STRINGENT SHALL GOVERN. THE DETAIL SHOWN DEPICTS A GENERAL JOINT CONFIGURATION FOR ILLUSTRATION ONLY. GASKET INFORMATION: HAMILTON KENT TYLOX SUPER SEAL 200 (TSS200).
 - C. FOR JOINTS BETWEEN THE FIRST RISER AND TOP OF A CAST-IN-PLACE BASE, CONTRACTOR MAY USE KEY JOINTS ASSEMBLED WITH CLASS "C" MORTAR AND INSTALL AN EXTERNAL BAND CONFORMING TO ASTM C877 TYPE I OR TYPE II EXTERNAL SEALING BAND. ALL OTHER JOINTS EXCEPT GRADERINGS SHALL BE GASKETED AND CONFORM TO SSPWC SECTION 208-3 AND ASTM C443.

AT GRADE RINGS, CONTRACTOR SHALL USE KEYED JOINTS ASSEMBLED WITH CLASS"C" MORTAR AND INSTALL A MAINTENANCE HOLE FRAME-CHIMNEY SEAL CONFORMING TO ASTM C923 OR AN EXTERNAL BAND CONFORMING TO ASTM C877 TYPE III EXTERNAL SEALING BAND.
 - D. PRIOR TO FABRICATION OF MAINTENANCE HOLE SECTIONS, THE CONTRACTOR SHALL SUBMIT JOINT TEST REPORTS THAT DEMONSTRATE CONFORMANCE TO THE STATED REQUIREMENTS FOR BOTH MATERIAL AND PERFORMANCE USING FULLY ASSEMBLED JOINTS.
 - E. CONTRACTOR SHALL APPLY ASPHALT MEMBRANE WATERPROOFING TO THE EXTERIOR OF CONCRETE SECTIONS IN ACCORDANCE WITH CALTRANS STANDARD SPECIFICATION SECTION 54: WATERPROOFING, LATEST EDITION OR APPROVED EQUAL. THE COATING SHALL BE APPLIED UP TO THE MAXIMUM EXPECTED GROUND WATER TABLE LEVEL. IN LIEU OF COATING, 9 INCHES OF TUNNEL BACKFILL (490-C-2000P) MAY BE PLACED ALL AROUND THE SHAFT.
 - F. UPON COMPLETION OF INSTALLATION AND PRIOR TO BACKFILL, THE CONTRACTOR SHALL SUCCESSFULLY CONDUCT A NEGATIVE AIR PRESSURE (VACUUM) TEST CONFORMING TO ASTM C 1244 IN THE PRESENCE OF THE INSPECTOR.
- 12. THE SUPPORTING SOIL SHALL BE CAPABLE OF PROVIDING THE FOLLOWING MINIMUM BEARING CAPACITIES WHEN USING THIS STANDARD: FOR MAINTENANCE HOLES WHERE H IS EQUAL TO OR LESS THAN 15' DEEP, 1100PSF; FOR MAINENCANCE HOLES WHERE H IS GREATER THAN 15' DEEP, 2500PSF.
- 13. THE MINIMUM DISTANCE "J" PERMITTED BETWEEN OPEINGS, SHALL BE ½ OF THE SMALLEST PIPE OUTER DIAMETER. PIPE SIZES SHALL NOT EXCEED THOSE IN THE TABLE BELOW;

MH DIAMETER	MAIN LINE DIAMETER	SIDE INLET DIAMETER
60"	30"	21"
72"	42"	21"
84"	60"	24"
96"	66"	24"



RECON PRODUCTS
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TITLE: S-150-0 POUR IN PLACE BASE		
DRAWN BY: K.Strader	DATE: 12/10/20	MODEL NO. PG 7 OF 7